

# **ABSTRACT**

A router includes a detection module to detect a presence of the network attack, such  
 as a denial of service (DOS) attack. The detection module may, for example, include  
 5 counters indicating a number of packets processed for various network protocols supported  
 by the router. The detection module enables a rate-limiting operating mode for the router  
 when one or more of the counters exceed a protocol-specific threshold. Under normal traffic  
 levels, the router receives inbound packets using interrupt-driven service routines. When a  
 network attack is detected, however, the router dynamically switches modes and processes  
 10 the packets using a finely controlled software process. This allows the software process to  
 control the computing resources allocated to servicing packets during a network attack,  
 thereby reserving sufficient resources for lower priority software processes to process the  
 packets and service other tasks.

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